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15 UNITED STATES DISTRICT COURT
16 FOR THE CENTRAL DISTRICT OF CALIFORNIA

17 BLACKBERRY LIMITED,
18 a Canadian corporation,
19 Plaintiff,
20 v.
21 TWITTER, INC.,
22 a Delaware corporation,
23 Defendant.

Case No. 2:19-cv-01444-GW-KS

**BLACKBERRY LIMITED'S
OPPOSITION TO
TWITTER, INC.'S
MOTION TO DISMISS**

Date: August 29, 2019
Time: 8:30 a.m.
Courtroom: 9D
Hon. George H. Wu

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1 **I. INTRODUCTION**

2 Twitter's Motion fails to address the concrete technological improvements of the
 3 subject inventions. Indeed, this Court previously rejected Facebook and Snap's
 4 identical attempts to invalidate three of the same patents at issue here.¹ For all seven
 5 patents at issue, Twitter improperly characterizes the claims at a higher level of
 6 abstraction than permitted under relevant precedent, and glosses over key claim terms
 7 and their technological nature. Twitter also improperly draws all inferences in its own
 8 favor, and ignores factual disputes precluding dismissal at this stage. As set forth in
 9 BlackBerry's pleadings, the inventions here comprise non-abstract, novel architectures
 10 and specific methods to solve technological problems that arose in the context of
 11 wireless communications systems, mobile phones and online social networks.

12 The '351 and '929 patents (which this Court has previously upheld) describe a
 13 novel architecture for packaging and delivering content and advertising information to
 14 mobile devices in a faster and more efficient manner than previously possible. The
 15 inventors were faced with a technological problem of how to efficiently transmit data to
 16 mobile devices with limited processing power, bandwidth and battery life in 2001 and
 17 2002. At that time, information on the Internet was designed for delivery and display
 18 on desktop computers, not mobile devices. To address the constraints of such devices,
 19 these inventions reduce the bandwidth and time required for mobile phone users to
 20 consume content and advertisements. For example, the inventions make only relevant
 21 portions of information available to a mobile device based on specific criteria. These
 22 inventions solve specific technological problems that arose in the context of resource-
 23 constrained mobile communications and the Internet; they are not some abstract idea or
 24 series of steps that can be performed mentally or with pen and paper. Twitter's
 25 assertion that the claims do no more than sort and store information amounts to an
 26

27 ¹ *BlackBerry Ltd. v. Facebook, Inc.*, No. 18-1844, 2018 WL 4847053, at *5-8, *14-
 28 15 (C.D. Cal. Aug. 21, 2018) (Wu, J.).

1 improper description of the claims at a high level of abstraction and untethered from the
 2 claim language—an approach that both the Federal Circuit and this Court have rejected.

3 The '120 patent (which this Court has held to be “drawn to a technological
 4 improvement over other communication device messaging systems rather than . . . to an
 5 abstract idea”) addresses a problem that became acute largely after the popularization of
 6 smartphones—namely incessant new message notifications. The invention permits
 7 users to selectively silence such notifications on a per-thread basis, suppressing
 8 notifications for only some rather than all communications. It does so by enabling
 9 users to selectively override notification settings and to display silenced messages in a
 10 visually distinct manner on the device—a specific and substantial improvement over
 11 the all-or-nothing approach in prior messaging systems. Twitter’s claim that the
 12 invention is directed to the abstract idea of sorting, analyzing, and presenting new
 13 messages again improperly glosses over specific claim elements and ignores the
 14 problem that the invention solves and how it does so.

15 The '089 patent was the result of a rather counterintuitive observation made by
 16 its inventors: the proliferation of electronic messages for many mobile phone users
 17 rendered largely useless the prior art system of displaying a numeric count to convey
 18 the number of new, unopened messages in the user’s inbox. The count could become
 19 so large as to be ultimately overwhelming or irrelevant. The inventors addressed this
 20 issue with a novel communications system that displays a new message indicator on a
 21 home screen of the device or application when a new message is received, and resets
 22 the indicator when the device switches from the home screen to a screen that contains a
 23 list and preview of received messages (e.g., an inbox) even if the user does not open the
 24 new message. Thus, after exiting the inbox, the user knows that any subsequent change
 25 in the new message indicator indicates the arrival of new messages, not merely that
 26 unopened messages are in the user’s inbox. This obviates the need for users with a
 27 large number of unopened messages to constantly check their inbox to determine
 28 whether a new message was received. Twitter ignores applicable precedent to argue the

1 patent is abstract, but like other patents the Federal Circuit has upheld, the '089 patent
2 is directed to a particular manner of summarizing and presenting information in
3 electronic devices—a specific improvement to conventionally programmed behavior in
4 prior art graphical user interfaces. It is thus not an abstract idea.

5 The '182 patent reduces redundant notifications in electronic messaging systems
6 based on a novel architecture. Prior to this invention, electronic messaging systems
7 provided senders with notifications for *each* sent message, such as that the message
8 was delivered or read. This required bandwidth and resources that otherwise could
9 have been used for other communications. The invention optimizes electronic
10 messaging systems by *limiting* status notifications to the last sent of a number of
11 messages and *inferring* the status for the earlier messages, thereby providing the sender
12 a single status notification for multiple electronic messages and preserving network
13 bandwidth and other resources. The claims are therefore directed to a particular manner
14 of summarizing and presenting information in electronic devices and thus are not
15 abstract. Twitter again glosses over the specific limitations in this patent that provide
16 concrete technological improvements rooted in mobile communications.

17 The '059 patent describes a novel communications system to reduce redundant
18 data transfers by mobile devices. In the prior art, to share content, a mobile device
19 would download the content and then upload it to a server for delivery to another
20 device. Under the system described in the '059 patent, the same mobile device can
21 share content via a data hub server that already has the content stored thereon, thereby
22 avoiding the need for the mobile device to first download and then upload the content
23 to be shared with another device. Users of this patent benefitted from more efficient
24 use of bandwidth, battery and other resources in resource-constrained mobile devices.
25 Twitter's claim that the patent is directed to an abstract idea of communicating the
26 availability of content through a networked hub ignores the language of the claims,
27 which provide a technological solution to a specific technological problem—*i.e.*, a
28 specific structure that receives and transmits representational data using directed

1 transmissions to and from mobile wireless devices, thereby minimizing the amount of
2 data sent by mobile devices and reducing unnecessary traffic on the network.

3 Finally, the '777 patent addresses an issue unique to online social networks: how
4 to constrain the rapid proliferation of potentially harmful or otherwise undesirable
5 content, such as misinformation, defamatory statements and bullying, which can
6 cascade through the network, using up valuable resources. It is specifically the
7 technological environment in which social networks are implemented and exist that
8 allows for proliferation of such content at a rate that any counterpoint or corrective
9 communications are rendered ineffective—thereby resulting in potentially irrevocable
10 damage to the target of the undesirable content, while using up valuable network
11 resources in the process. The inventors recognized the need for a technological
12 improvement to prior art systems to curb the proliferation of such content, while
13 preserving free speech and avoiding censorship. Their solution was a novel
14 technological architecture using a two-tiered approach to identify potentially harmful
15 content and selectively adjust notification of new messages containing similar content.
16 In so doing, the invention interrupts the “circular mill” phenomenon unique to online
17 social networks, where undesirable content rapidly snowballs and inundates network
18 resources and user devices. The patent overrides the default programmed behavior of
19 the prior art systems, which uniformly allow receipt and notification of all messages
20 regardless of content. Twitter’s argument that the patent is directed to an abstract idea
21 of screening repetitive content when it becomes excessive again ignores both the
22 problem in the prior art that the invention solves and how it does so, including specific
23 claim limitations such as selective overriding of default message sharing settings on the
24 basis of a specific algorithm. This patent does not protect an abstract idea, but rather a
25 specific and substantial improvement over prior social networks and systems—prior art
26 systems that failed to identify, let alone manage, harmful communications.

27 As explained further below, Twitter fails to carry its heavy burden to prove by
28 clear and convincing evidence that the asserted claims are invalid.

1 **II. LEGAL STANDARD**

2 An action cannot be dismissed at the pleading stage if a complaint alleges
 3 “enough facts to state a claim to relief that is plausible on its face.” *Bell Atlantic Corp.*
 4 *v. Twombly*, 550 U.S. 544, 570 (2007). The court must accept all allegations of
 5 material fact in the complaint as true, construe the complaint in the light most favorable
 6 to the plaintiff, draw all reasonable inferences from well-pleaded factual allegations,
 7 and resolve all doubts in favor of the pleader. *Erickson v. Pardus*, 551 U.S. 89, 93-94
 8 (2007); *Berg v. Popham*, 412 F.3d 1122, 1125 (9th Cir. 2005).

9 “A patent is presumed valid, and the burden of establishing invalidity of a claim
 10 rests on the party asserting invalidity by clear and convincing evidence.” *Core Wireless*
 11 *Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1364 (Fed. Cir. 2018) (citing 35
 12 U.S.C. § 282). The § 101 invalidity inquiry involves a two-step analysis. A challenger
 13 must first demonstrate that the claims as a whole are “directed to a patent-ineligible
 14 concept” such as an abstract idea. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 218
 15 (2014). If the challenger carries its burden at step one, it must then also show that the
 16 claims lack an “inventive concept”—that is, the claim elements when considered both
 17 individually and as a combination involve no more than “well-understood, routine, and
 18 conventional activities previously known to the industry.” *Aatrix Software, Inc. v.*
 19 *Green Shades Software, Inc.*, 882 F.3d 1121, 1128 (Fed. Cir. 2018). That is necessarily
 20 a question of fact. *Id.* “[P]lausible and specific factual allegations that aspects of the
 21 claims are inventive are sufficient” to defeat a motion to dismiss. *Cellspin Soft, Inc. v.*
 22 *Fitbit, Inc.*, No. 18-1817, 2019 WL 2588278, at *8 (Fed. Cir. June 25, 2019) (court
 23 erred by not accepting as true well-pleaded allegations regarding inventiveness).

24 **III. ARGUMENT**

25 The asserted patents are directed to technological solutions to specific technical
 26 problems recognized by the inventors, and thus are not abstract under applicable
 27 precedent. For example, the Federal Circuit has held as patent eligible claims—like
 28 those here—“directed to an improvement in the functioning of a computer.” *Enfish*,

1 *LLC v. Microsoft Corp.*, 822 F.3d 1327, 1338 (Fed. Cir. 2016). Similarly, it has upheld
 2 claims—like those here—that are “necessarily rooted in computer technology in order
 3 to overcome a problem specifically arising in the realm of computer networks.” *DDR*
 4 *Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014). Also eligible
 5 are claims, as in the ’120, ’089, and ’182 patents, that are “improvements to electronic
 6 graphical user interfaces (GUIs), particularly those that simplify the display of data and
 7 improve the ease of navigation.” *Core Wireless*, 880 F.3d at 1356.

8 BlackBerry has alleged in detail how each of the inventions was not well-
 9 understood, routine, or conventional and provided specific advantages over the prior
 10 art. Dkt. 36 ¶¶ 72-77, 88-93, 105-110, 134-140, 155-161, 180-185, 206-212. At a
 11 minimum, these allegations raise factual issues precluding dismissal. *Aatrix*, 882 F.3d
 12 at 1126-28. Moreover, to the extent the factual issues raise claim construction disputes,
 13 “it will ordinarily be desirable—and often necessary—to resolve claim construction
 14 disputes prior to a § 101 analysis.” *Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of*
 15 *Canada (U.S.)*, 687 F.3d 1266, 1273-74 (Fed. Cir. 2012).

16 Twitter must establish invalidity of ***each claim*** by ***clear and convincing***
 17 ***evidence***. *Core Wireless*, 880 F.3d at 1364. Twitter offers no record evidence—
 18 let alone the clear and convincing sort—to support its contention that the claims recite
 19 patent-ineligible subject matter. *Cellspin*, 2019 WL 2588278, at *8 (vacating dismissal
 20 where patentee “made specific, plausible factual allegations that aspects of the claims
 21 are inventive”); *ZeroClick, LLC v. Apple Inc.*, 891 F.3d 1003, 1008-09 (Fed. Cir. 2018)
 22 (vacating court’s holding that patent claims were invalid because determination was
 23 “couched in conclusory language” and “pointed to no record evidence that support[ed]
 24 its ultimate conclusion”). Twitter also directs its arguments to only a cherry-picked
 25 subset of limitations for each claim it chooses to challenge—ignoring other key claim
 26 limitations as well as their combination. *Alice*, 573 U.S. at 217-18; *BASCOM Glob.*
 27 *Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349-52 (Fed. Cir. 2016).
 28 Thus Twitter addresses only what it perceives to be the claimed inventions—not the

1 *actual* claimed inventions in light of the problem specifically identified in the prior art
 2 systems. *Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999, 1007-08 (Fed. Cir.
 3 2018) (focusing on the “particular way” in which the *actual* “technical solution” solved
 4 the prior art’s “technological problem”); *Enfish*, 822 F. 3d at 1335-39 (same).

5 Moreover, while BlackBerry has alleged as “non-limiting example[s]” that
 6 Twitter infringes “at least” certain enumerated claims of each asserted patent, by no
 7 means are such claims representative of all other asserted claims for any validity
 8 determination. Indeed, each claim recites specific limitations that stand on their own.
 9 Given each claim is presumed valid and Twitter bears the burden to prove invalidity of
 10 ***each claim*** by clear and convincing evidence, Twitter’s approach of designating claims
 11 as representative without any analysis is improper. Cf. *BlackBerry*, 2018 WL 4847053,
 12 at *11 (dependent claims did not recite patent-ineligible subject matter as they included
 13 additional concepts unaddressed by challenger’s arguments regarding the representative
 14 independent claim); *Dynamic Digital Depth Research PTY Ltd. v. LG Elecs., Inc.*, No.
 15 15-5578, 2016 WL 7444561, at *6 (C.D. Cal. June 6, 2016) (Wu, J.) (“Although
 16 Defendants contend in a footnote that there are no meaningful distinctions among the
 17 claims, this conclusory assertion is far from clear.”). An invalidity analysis under § 101
 18 may be performed based on one or more representative claims, but only after
 19 conducting an analysis to establish the claim(s) as representative—not by a party’s *ipse*
 20 *dixit* proclamation that a particular claim is representative, as Twitter has done here.
 21 Mot. 7 n.1. Although Twitter has failed to provide any such analysis, to the extent this
 22 Court considers Twitter’s contention, Appendix A sets forth examples of claims and
 23 highlights distinct claim elements that Twitter has failed to address.

24 A. The ’351 Patent Claims Eligible Subject Matter

25 1. Step One: The Novel Technical Architecture Is Not Abstract

26 The ’351 patent was conceived and reduced to practice no later than 2001. Back
 27 then, an enormous amount of content was available from such sources as servers on the
 28 Internet. ’351 patent at 1:32-43. In general, though, those information sources were

1 designed for desktop computers connected through wired connections, not mobile
 2 devices connected over wireless networks where battery life, screen size, and
 3 bandwidth usage are critical considerations for any system design. The inventors thus
 4 recognized that, were conventional mobile devices to obtain information using methods
 5 consistent with “the traditional Internet model” at the time, “the amount of data to be
 6 reconciled between the service provider and the mobile device can become very large
 7 leading to bandwidth difficulties, particularly when the mobile device is
 8 communicating via a wireless packet-switched network or over a traditional paging
 9 network” U.S. Prov. Pat. App. No. 60/307,265 at 2-3. The inventors also
 10 recognized that directly synchronizing mobile devices with information sources placed
 11 an unreasonable burden on mobile devices themselves, which are inherently
 12 constrained in terms of battery and processing power. The ’351 patent solved this
 13 technological problem by making only relevant portions of the existing information
 14 sources available to a mobile device over a wireless network, with the claims directed
 15 to a novel and improved technical architecture for aggregating, enhancing, storing, and
 16 sending content and advertising information to mobile devices in a targeted and
 17 efficient manner over wireless networks.

18 Twitter’s claim that the specification lacks any technical challenge (Mot. 20-21)
 19 is belied by the specification’s description of technical challenges in prior art
 20 “[s]ystems for transmitting information from databases in a computer network . . . over
 21 a wireless network to a mobile device . . . [that t]ypically . . . utilize[d] a
 22 ‘synchronization’ or ‘pull’ method” “executed at the mobile device” “to connect the
 23 computer network and initiate the transfer of information over the wireless network” to
 24 the mobile device. ’351 patent at 1:32-39. “[S]ome paging networks offer[ed] services
 25 to automatically ‘push’ . . . information,” but they too were limited to pushing “small
 26 amounts of information” to “alphanumeric paging devices.” *Id.* at 1:39-41. Prior art
 27 systems thus could not transmit large amounts of advertising and content information to
 28 mobile devices over a wireless network—a technological problem the inventions solve.

1 Moreover, the architecture of the inventions is scalable, capable of pre-processing a
 2 large amount of information. Indeed, claim 1 teaches a specific manner in which to
 3 achieve that scalability: (1) using a specialized proxy content server to preemptively
 4 aggregate information collected from diverse sources, classify each piece of
 5 information by pre-defined “channel” or “category” to quickly determine which
 6 information to send to which mobile device, and store it in a computer memory location
 7 associated with that channel or category; (2) transmit specific data in a specific manner
 8 using three separate categories of advertising information (that is, with static, dynamic,
 9 and default advertising information), *id.* at 7:35-49, which allows for selective
 10 transmission of only certain parts, cutting down on data transmission and battery usage;
 11 and (3) transmit the specific data to a mobile device based on “feedback signals” that
 12 indicate device location, *see, e.g.*, claim 1, thereby minimizing the data sent to the
 13 mobile device and targeting specific relevant information for the mobile device user.
 14 Because the content is selected and filtered before delivery to the user, neither the
 15 small-screen resource-constrained mobile device nor the wireless channel is
 16 overwhelmed by a flood of unfiltered data from the Internet.

17 Twitter argues that “*Core Wireless* is inapposite here,” suggesting a subsequent
 18 case somehow narrowed it or made it inapplicable to the claims here. Mot. 22 (citing
 19 *Trading Techs. Int’l, Inc. v. IBG LLC* (“*Trading Techs II*”), 921 F.3d 1084 (Fed. Cir.
 20 2019)). Not so. The claims in *Trading Techs II* represented an improvement in the
 21 regular human activity of trading “goods and shares in companies,” not a technological
 22 improvement, and the broadly-worded claims “focused on improving the trader, not the
 23 functioning of the computer.” 921 F.3d at 1091. In contrast, the Federal Circuit upheld
 24 the claims in *Trading Techs. Int’l, Inc. v. CQG, INC.* (“*Trading Techs I*”), 675 F. App’x
 25 1001, 1005 (Fed. Cir. 2017), despite that they also related to “displaying market
 26 information on a graphical user interface,” because they recited “a specific, structured
 27 graphical user interface paired with a prescribed functionality directly related to the
 28 graphical user interface’s structure that is addressed to and resolve[d] a specifically

1 identified problem in the prior state of the art.” 675 F. App’x at 1004. Indeed, in post-
 2 *Core Wireless* precedent, *Data Engine*, 906 F.3d at 1008, the Federal Circuit expressly
 3 upheld as non-abstract inventions reciting “a specific solution to then-existing
 4 technological problems in computers and prior art electronic spreadsheets.” *See also*
 5 *DDR Holdings*, 773 F.3d at 1257-58 (claims directed to aggregating and serving
 6 content from hyperlinked websites). As in those cases, the inventions here also provide
 7 a technological solution to specific problems associated with resource-constrained
 8 mobile devices, to connect with various information sources over a bandwidth-
 9 constrained wireless network. The inventions teach a nuanced and specific manner of
 10 aggregating, combining, and delivering content and/or advertisements to resource-
 11 constrained mobile devices over bandwidth-constrained wireless networks. *Finjan, Inc.*
 12 v. *Blue Coat Sys., Inc.*, 879 F.3d 1299, 1303-05 (Fed. Cir. 2018) (holding the “flexible
 13 and nuanced [software-based] virus filtering” to constitute “non-abstract improvements
 14 to computer technology”); *SRI Int’l, Inc. v. Cisco Sys., Inc.*, 918 F.3d 1368, 1375 (Fed.
 15 Cir. 2019) (claims “directed to using a specific technique . . . to solve a technological
 16 problem arising in computer networks” were not abstract).

17 Twitter argues that the patent claims could be performed “mentally or with pen
 18 and paper,” Mot. 21, but fails to acknowledge that the claims are directed to solving a
 19 technological challenge associated with transmitting information over a wireless
 20 network to a mobile device. Twitter’s analogy of “compos[ing]” a newspaper weekend
 21 edition “by assembling a layout for the newspaper with articles selected from various
 22 categories” does not solve such a technological challenge. Claim 1 also recites
 23 technical steps such as aggregating information into computer “memory locations,”
 24 “receiv[ing] a feedback signal . . . indicat[ing] a position of the mobile device,” and
 25 then “us[ing] the feedback signal” to filter information for delivery to the mobile
 26 device—all combined to form “[a] system for pushing information to a mobile device.”
 27 Twitter’s non-technological alleged analog cannot perform these steps, let alone
 28 combine them into a solution to address deficiencies of the prior art systems.

Twitter also asserts that claim 1 is directed broadly to the concept of targeted advertising. Mot. 21.² Not so, as explained above. Twitter’s approach presents a “descri[p]tion of] the claims at [] a high level of abstraction and untethered from the language of the claims.” *Enfish*, 822 F.3d at 1337. The Federal Circuit admonishes against this type of oversimplification. *McRo, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1307-08, 1313 (Fed. Cir. 2016) (holding as patent eligible claims that, at a high level of abstraction, could be understood as directed to “collection, analysis, and display” of information). The patent provides a new solution for **how** content and advertising information are efficiently maintained (at a proxy content server), packaged (using default, static, and dynamic information), and transmitted to a mobile device—including based on a feedback signal indicating location. This distinction highlights why “the claims here are directed to an improvement in the functioning of a computer” and thus are patent eligible. *Enfish*, 822 F. 3d at 1338. The invention also minimizes the amount of data sent to a mobile device over wireless networks, a problem “particular to the Internet.” *DDR Holdings*, 773 F.3d at 1247. The claims are therefore not abstract and so the inquiry ends at step one. *Enfish*, 822 F.3d at 1339.

2. Step Two: The Inventive Concept Precludes Dismissal

Twitter’s motion should be denied at step one. Should the Court reach step two, factual disputes preclude dismissal, as this Court previously found. *BlackBerry*, 2018 WL 4847053, at *7. Twitter’s claim that organizing advertising information into memory location channels based on pre-defined categories is conventional, Mot. 23, is unsupported. There is no evidence this element, individually or as a combination with other elements, was “well-understood, routine, and conventional activities previously

² Twitter’s reliance on *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1370 (Fed. Cir. 2015) is misplaced. Those claims involved notifications of when spending exceeded a pre-set limit. Such claims covered “methods of organizing human activity” entirely unlike the claims of the ’351 patent. So too in *OpenTV, Inc. v. Netflix Inc.*, 76 F. Supp. 3d 886, 893 (N.D. Cal. 2014), where claims recited using generic computer technology to implement the basic idea of knowing one’s audience.

1 known to the industry.” *Aatrix*, 882 F.3d at 1128. Moreover, Twitter’s reliance on
 2 *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016) is inapposite, as
 3 the claims there covered virtually all forms of collection, analysis, and display of data.
 4 Here, by contrast, the claims recite a specific manner of aggregating and processing
 5 information to efficiently and quickly make it available to mobile devices over wireless
 6 networks. Twitter’s assertion that the claims do no more than sort and store
 7 information is an abstraction untethered to claim language. *Enfish*, 822 F.3d at 1337.

8 Twitter also contends there is nothing inventive about transmitting specific data
 9 from a memory location channel based on a feedback signal or triggering event. Mot.
 10 23. This oversimplification ignores that classifying advertising and content into pre-
 11 defined categories and storing them into memory locations enables the proxy content
 12 server to enhance the information with static, dynamic, and default advertising
 13 information, and then select only that information which is relevant to the mobile
 14 device—before sending it thereto. So the capabilities of the proxy content server and
 15 its network architecture enable only a selective subset of information to be sent to a
 16 mobile device over a wireless network, with distinct benefits for mobile device users.
 17 Dkt. 36 ¶ 85. Moreover, the elements were not conventional, well-understood or
 18 routine, and operated together to provide an improved system for delivery of relevant
 19 and timely advertising information to mobile device users, “a specific and substantial
 20 improvement” over prior art systems. *Id.* ¶¶ 88-90. BlackBerry’s allegations are
 21 sufficient at this stage at least to raise a factual dispute at step two. *Cellspin*, 2019 WL
 22 2588278, at *8 (“plausible and specific factual allegations that aspects of the claims are
 23 inventive are sufficient” to defeat a motion to dismiss); *BASCOM*, 827 F.3d at 1349-52
 24 (combination of limitations formed the requisite inventive concept); *BlackBerry*, 2018
 25 WL 4847053, at *7 (same).

26 Finally, Twitter asserts claim 1 is “exemplary” of the asserted claims, but
 27 provides no analysis to demonstrate such claim is representative of all other claims.
 28

1 Mot. 19. It is not.³ For example, other claims include limitations such as “an
 2 advertising and information software module” and “a channel content database,” or “an
 3 operating system.” *See Appx. A.*

4 **B. The ’929 Patent Claims Eligible Subject Matter**

5 **1. Step One: The Novel Technical Architecture Is Not Abstract**

6 The ’929 patent uses the same fundamental architecture as the ’351 patent, and
 7 also teaches the use of a “meta tag” that “relates to display of specific one or more
 8 advertisements with the content information.” ’929 patent at Abstract. Like the ’351
 9 patent, it is a solution directed to solving a problem specifically arising in sending
 10 information to wireless devices. Specifically, once the proxy server detects a “time
 11 triggering event,” it determines content relevant to the time trigger. *Id.* at 11:45-66.
 12 The server may then embed a “meta tag” into the content and send the content
 13 including the meta tag to the mobile device. *Id.* at 11:66-12:16. This preserves
 14 bandwidth and device resources by sending a meta tag in lieu of a full advertisement
 15 (which is a larger piece of data), thereby allowing the mobile device to receive the full
 16 advertisement corresponding to the meta tag only when it actually accesses the content.

17 As an example: “Meta tags are embedded control sequences that the Proxy
 18 Content Server has inserted to indicate when advertising should be inserted.” *Id.* at
 19 8:32-35. This meta tag is served along with content and consumes less data than the
 20 full advertisement because, for example, it teaches using “a cross reference value to
 21 reach the full advertising on the mobile device.” *Id.* at 12:11-15. That is, rather than
 22 sending the full advertisement, the patent describes sending an embedded control
 23 sequence referencing the full advertisement to be timely delivered to the device later—

24
 25 ³ Twitter’s reliance on BlackBerry’s complaint is misplaced. BlackBerry used the
 26 term “exemplary” to indicate claim 1 was one “non-limiting example” of Twitter’s
 27 infringement, not that it was representative of all other claims. Dkt. 36 ¶ 96 (“As just
 28 one non-limiting example, set forth below . . . is a description of infringement of
 exemplary claim 1 of the ’351 Patent . . . ”).

1 for example, when the device is actually accessing or displaying the content to which
 2 the advertisement corresponds, thereby ensuring that bandwidth is not consumed
 3 sending advertisements that a user may never see. Against the backdrop described
 4 above in § III.A.1, the claims teach a novel technological architecture to transmit data
 5 to mobile devices over a wireless network—including a meta tag in lieu of the
 6 advertisement to further save bandwidth over the wireless network and computational
 7 resources (and therefore battery usage) on the wireless device.

8 **2. Step Two: The Inventive Concept Precludes Dismissal**

9 Notwithstanding the foregoing, factual disputes preclude dismissal at step two, as
 10 this Court has previously found. *BlackBerry*, 2018 WL 4847053, at *7; *id.*, No. 18-
 11 1844, Dkt. 156 at 12 (C.D. Cal. Apr. 5, 2019). Twitter’s assertion that a “meta tag” is
 12 merely a “reference value” that refers to the advertisement and indicates when
 13 advertising should be inserted, which purportedly solves no technical challenges and
 14 provides no improvements, Mot. 23-24, is unsupported. Twitter fails to acknowledge
 15 that transmitting and processing a meta tag in lieu of the full advertisement saves
 16 bandwidth over the wireless network and computational resources (and so battery
 17 usage) on the wireless device, and that the timing element of inserting advertisements
 18 was an important benefit. Moreover, in 2001, the combination of recited limitations
 19 constituted an inventive concept used to deliver advertising content, “a specific and
 20 substantial improvement over prior communication systems.” Dkt. 36 ¶¶ 72-74.
 21 Twitter’s arguments at most raise factual disputes as to whether serving advertising via
 22 meta tags along with non-advertising content in response to a time triggering event is
 23 an “inventive concept.” *Cellspin*, 2019 WL 2588278, at *8; *BASCOM*, 827 F.3d at
 24 1349-52; *BlackBerry*, 2018 WL 4847053, at *7.

25 Twitter also asserts claim 9 is “exemplary” of the asserted claims, but provides
 26 no analysis to demonstrate such claim is representative of all other claims. Mot. 19. It
 27 is not. For example, other claims include limitations such as “requirements established
 28 to a user of the mobile device, an advertiser, or an interested third party,” “a cross

1 reference value . . .,” and “wherein the server determines, inserts, and transmits for each
 2 of the remaining plurality of memory location channels.”⁴ *See Appx. A.*

3 C. The ’120 Patent Claims Eligible Subject Matter

4 1. Step One: The Novel Graphical User Interface Is Not Abstract

5 This Court previously found the claims of the ’120 patent “drawn to a
 6 technological improvement over other communication device messaging systems rather
 7 than . . . an abstract idea.” *BlackBerry*, 2018 WL 4847053, at *14. That conclusion
 8 controls here. Twitter’s argument that claim 13 is directed to “the abstract idea of
 9 sorting, analyzing, and presenting new messages,” Mot. 27, is misplaced. Twitter
 10 ignores both the problem that the invention solves and how it does so. The patent
 11 explains—against the technological context in or before 2009—that “[e]lectronic
 12 messages, such as electronic mail messages and messages posted to group sites, can be
 13 grouped into message threads,” which are groups of messages related to the same
 14 matter. ’120 patent at 1:22-24. It further explains that “[a] user may receive a
 15 notification each time an electronic message is received.” *Id.* at 1:28-30. Such
 16 “[n]otifications could include, for example, auditory user alerts such as ring tones,
 17 visual alerts such as flashing lights or pop-ups and physical alerts such as vibrations.”
 18 *Id.* at 1:30-32. Because such devices are multi-functional and also include “various
 19 applications enabling users to, for example, listen to music, watch video files, play
 20 games, view picture files, surf the internet wirelessly, etc.,” *id.* at 7:60-67, the incessant
 21 notifications in prior art were disruptive to the user. The inventors recognized the need
 22 for an improved user interface for providing users the ability to selectively silence such
 23 notifications on a per-thread basis thereby suppressing notifications for only some
 24 communications.

25 Claim 1, among others, recites an improved user interface and communication

27 ⁴ As with the ’351 patent, Twitter’s reliance on BlackBerry’s complaint is
 28 misplaced, for the same reasons. *See n.3, supra; Dkt. 36 ¶ 80.*

1 system. It teaches that once the system receives a user command selecting an electronic
 2 message thread for silencing, the system activates a flag—indicating the selected thread
 3 has been silenced. *Id.* at claim 1. The system then ascertains which new incoming
 4 message is associated with the selected message thread, checks whether the flag
 5 associated with the selected message thread remains activated, and if so, overrides the
 6 default notification setting (preventing a notification for that thread), and displays the
 7 processed new message in the inbox in a different manner than the non-silenced
 8 message threads. *Id.* The specification explains that when a user who has silenced a
 9 message thread reactivates that thread, that user may again receive notifications, and
 10 messages associated with such a reactivated message thread may no longer appear to be
 11 greyed out or otherwise modified in appearance when displayed with the inbox content.
 12 *Id.* at 13:42-45. Claim 7 captures that teaching, reciting that the system of claim 1 can
 13 be “further adapt[ed] . . . to allow the message thread to be unflagged deactivating the
 14 flag.” Claim 3 goes further, specifying the granularity at which the communication
 15 system of claim 1 allows selective silencing of message threads. That specificity makes
 16 clear the claims are drawn to a technological improvement over other messaging
 17 systems, creating an improved electronic user interface. *BlackBerry*, 2018 WL
 18 4847053, at *14; *Core Wireless*, 880 F.3d at 1362; *Trading Techs I*, 675 F. App’x at
 19 1004-06 (claims “solve[d] problems of prior graphical user interface devices” by
 20 “impart[ing] a specific functionality to a trading system,” reciting a specific manner of
 21 processing and displaying information). Twitter ignores that specificity in the claims.

22 Twitter’s reliance on *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d
 23 1307, 1317 (Fed. Cir. 2016) is also misplaced. The claims there recited a broad process
 24 that merely used the computer as a tool to receive, screen, and distribute e-mail, like a
 25 “brick-and-mortar” post office. *Id.* Such broad claims that recite “human-practicable
 26 concepts” carry significant preemption concerns. Similar concerns dictated the result in
 27 *Electric Power*, 830 F.3d at 1354, where the “process of gathering and analyzing
 28 information . . . then displaying the results,” without “any particular assertedly

1 inventive technology for performing those functions” was ineligible.

2 The claims here do not abstractly apply rules in a computer environment, but are
 3 specific to selecting specific communication threads, processing them in a particular
 4 manner, directing them to an inbox, overriding the “routine and conventional” behavior
 5 of providing a notification about them, and displaying them in a visually distinct
 6 manner on the device. By selectively overriding notification settings and viewing
 7 silenced messages in a visually distinct manner on the device, the claims are directed to
 8 “a particular manner of summarizing and presenting information in electronic devices”
 9 and not abstract. *Core Wireless*, 880 F.3d at 1362-63; *Data Engine*, 906 F.3d at 1007.

10 **2. Step Two: The Inventive Concept Precludes Dismissal**

11 The Court previously found “the combination of claimed elements” of the ’120
 12 patent sufficient to allege an inventive step. *BlackBerry*, 2018 WL 4847053, at *14
 13 n.16. Twitter offers nothing to change that conclusion. It argues the claims of the
 14 patent simply recite conventional and routine elements (Mot. 28-29), but evaluates
 15 three limitations *in isolation*—“activat[ing] a flag,” “overrid[ing] a currently-enabled
 16 notification,” and “display[ing] the [silenced] message . . . in a different manner.”⁵
 17 Twitter’s analysis fails for that reason alone, as these limitations must also be evaluated
 18 as a combination to discern the inventive concept. *See, e.g., BASCOM*, 827 F.3d at
 19 1350. By submitting no evidence directed to these elements as a combination, Twitter
 20 fails to carry its burden at step two. This is particularly true where, as here, BlackBerry
 21 has alleged that these limitations were inventive and operated together to selectively
 22 override notification settings and display silenced messages in a visually distinct
 23 manner on the device, “a specific and substantial improvement over prior messaging
 24 notification systems.” Dkt. 36 ¶¶ 105-107. *Cellspin*, 2019 WL 2588278, at *8; *Aatrix*,

25 ⁵ Even when considered “individually,” Twitter ignores key parts of the elements:
 26 focusing only on “flags,” not on “activat[ing] a flag”; on “overriding notifications,” not
 27 on “overrid[ing] a currently-enabled notification”; and on “displaying messages,” not
 28 on “display[ing] the [silenced] message . . . in a different manner.” Mot. 28-29.

1 882 F.3d at 1126-28; *BlackBerry*, 2018 WL 4847053, at *14 n.16, *14-15.

2 Twitter also asserts claim 13 “is representative,” but provides no analysis. Mot.
 3 24. It is not. For example, other claims include limitations such as “a group
 4 discussion,” “a receipt notification for a new incoming electronic message,” “allow[ing]
 5 the message thread to be unflagged [and] deactivating the flag,” “notifications [that]
 6 include one or more of an auditory alert, a visual alert or a physical alert,” and “the new
 7 incoming message is displayed in a default view of the inbox.” *See Appx. A.*

8 **D. The ’089 Patent Claims Eligible Subject Matter**

9 **1. Step One: The Novel Graphical User Interface Is Not Abstract**

10 Twitter argues claim 1 of the ’089 patent is directed to nothing more than “the
 11 abstract idea of flagging new messages until an inbox has been checked,” and “does not
 12 arise from a technological problem or offer a technological improvement.” Mot. 5.
 13 Again, Twitter ignores the problem that the invention solves and how it does so. The
 14 patent explains that exchanging messages on wireless and mobile devices (in or before
 15 2005) had become “an increasingly important feature” and such “messages received by
 16 the device [were] typically viewed using a graphical user interface (GUI).” ’089 patent
 17 at 1:34-39. In prior art GUIs, the user was notified of all new unopened messages using
 18 a counter. *Id.* at 1:39-51. The inventors made a rather counterintuitive observation:
 19 “[m]any device users receive far too many email messages for a simple unopened
 20 counter to be of much use. The number of unopened emails becomes so large that the
 21 count itself is largely irrelevant. These users need some way to be informed that they
 22 have new messages as distinct from unopened messages on the device.” *Id.* at 1:52-57.
 23 So the inventors came up with an improved user interface for such devices.

24 Claim 1, among other claims, embodies that improvement. The claim requires
 25 “setting a new message flag to indicate receipt” and correspondingly “representing, on
 26 a home screen . . . on the display, a new message indicator” upon receiving a new
 27 message. But upon “receiving an invocation to switch” from the home screen to “a
 28 message inventory display screen” (*i.e.*, that previews messages), including the newly

1 received message—“unsetting the new message flag” with “the new message indicator
 2 cleared off the home screen,” having fulfilled its purpose. An analog mailbox can
 3 neither replace “a prior art message notification system for electronic communication
 4 devices using a counter” nor provision for the technological limitations that collectively
 5 recite an improvement over that prior art.

6 Twitter argues “the Federal Circuit [recently] made clear that claims directed to
 7 displaying information . . . are patent-ineligible when they merely improve how a user
 8 processes information.” Mot. 1 (citing *Trading Techs II*, 921 F.3d at 1093). But as
 9 explained in § III.A.1, the claims in *Trading Techs II* “focused on improving the trader,
 10 not the functioning of the computer.” 921 F.3d at 1091. Indeed, in another post-*Core*
 11 *Wireless* precedent, the Federal Circuit upheld inventions reciting “a specific solution
 12 to then-existing technological problems,” *Data Engine*, 906 F.3d at 1008. Analogous
 13 to *Core Wireless* and *Data Engine*, where the claims raised no preemption concerns
 14 given their specificity, the claims here improve a conventionally programmed behavior
 15 in prior art GUIs using “a particular manner of summarizing and presenting information
 16 in electronic devices.” *Core Wireless*, 880 F.3d at 1362-63.

17 **2. Step Two: The Inventive Concept Precludes Dismissal**

18 Twitter offers no support for its assertion that the claims recite conventional and
 19 routine elements. Mot. 6-7. It resorts to discussing certain claim elements individually
 20 and asserts each, on its own, recites “routine acts of” a “communication device having a
 21 display.” Mot. 6. But BlackBerry specifically alleged the limitations operate together
 22 to provide a less-frequently updating—and so less intrusive—user interface, “a specific
 23 and substantial improvement over prior messaging notification systems.” Dkt. 36
 24 ¶¶ 155-158; ’089 patent at claims 1, 6, 7. Twitter fails to evaluate the limitations as a
 25 combination or demonstrate the limitations were not inventive in 2005. *Cellspin*, 2019
 26 WL 2588278, at *8; *BASCOM*, 827 F.3d at 1349-52; *Aatrix*, 882 F.3d at 1126-28.

27 Twitter’s reliance on *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089
 28 (Fed. Cir. 2016) is misplaced. The claims there were so broad they carried significant

1 preemption concerns. The claims detected improper access to a person's health records
 2 by generating and applying a rule to "audit log data." *Id.* at 1092. The claims here do
 3 not abstractly apply generic rules in a computer environment, but instead cover a
 4 specific improvement to the user interface of communication devices and their use of
 5 new message counters to notify users of new messages. Twitter again describes the
 6 claims abstractly, untethered to the actual claim language. *Enfish*, 822 F.3d at 1337.

7 Moreover, Twitter fails to address elements of any claims other than claim 1,
 8 which provide additional limitations such as "activating a light emitting diode (LED)
 9 on the device when the new message flag is set," "changing the state of an electronic
 10 message assigned the new message state to an old message state when the electronic
 11 message is opened on the device," "updating the new messages counter when the state
 12 of any electronic message has changed from new to old, or old to new, or when the
 13 electronic message received by the device is assigned a new and opened, or new and
 14 unopened state." See Appx. A.

15 E. The '182 Patent Claims Eligible Subject Matter

16 1. Step One: The Novel Technical Architecture Is Not Abstract

17 Twitter argues that claim 1 of the '182 patent is directed to "the abstract idea of
 18 inferring the status of messages in a conversation, such as whether the messages have
 19 been delivered or read," relying on a human conversation as an analogy. Mot. 8-9. But
 20 the issue addressed by the '182 patent is quite different than Twitter's analogy and set
 21 against the technological context and state of instant messaging (IM) communications
 22 systems in or before 2006. A sender on a first device does not have the benefit of
 23 hearing from the receiver on a second device in an IM conversation, as the messages
 24 are sent and read remotely on a device, not exchanged in a face-to-face conversation.
 25 After all, in an IM conversation carried out through a technological medium, "it may
 26 take some time for the user to notice the received message, to read it and to type and
 27 send the response." '182 patent at 1:18-20. And a user receiving an IM may take
 28 some time to notice the received message and respond. *Id.* at 1:17-18. In such a

1 situation, the sender of the message may wait a long time for a response before
 2 realizing that the user has not participated in the conversation. *Id.* at 1:19-21. Prior art
 3 IM systems handled this issue by providing senders “Message_Delivered,”
 4 “Message_Read,” “Typing_Start,” and “Typing_Stopped” notifications for ***each***
 5 ***message*** exchanged between the devices. *Id.* at 1:22-32. But the redundant
 6 notifications required bandwidth that could have been used for other communications.
 7 *Id.* at 1:33-34. They also would consume computational resources on users’ devices,
 8 which would process each of the notifications and render them on the screen. The
 9 inventors recognized the need for an architecture to reduce such redundant notifications
 10 in the specific technological context of IM communications systems.

11 Claim 1, among others, embodies that architecture to reduce redundant
 12 notifications. It teaches a method for managing notifications between two devices so
 13 that communications between them are reduced. *Id.* at claim 1. The mechanism
 14 comprises sending a plurality of IMs from the first to the second device, and receiving a
 15 status notification for only one of the plurality of messages—but not the messages sent
 16 before the one for which the status notification was received. *Id.* A processor updates
 17 an internal record to reflect the status of the message for which the status notification
 18 was received and to further reflect an inferred status for the message(s) sent before the
 19 one for which the status notification was received. Therefore, the improved IM system
 20 can utilize a single status notification for multiple IMs.

21 Twitter glosses over these limitations as it argues that the claims use “result-
 22 based functional language.” Mot. 9. In the case Twitter cites in support, the court
 23 invalidated claims that did “not sufficiently describe how to achieve the[] results in a
 24 non-abstract way.” *Two-Way Media Ltd. v. Comcast Cable Commc’ns*, 874 F.3d
 25 1329, 1337 (Fed. Cir. 2017). Here, though, the claims are quite specific: rather than
 26 broadly using only generic functional language (e.g., solely claiming the step of
 27 “generating a screen display”), the claims specify the architecture behind the computer
 28 improvement by reciting how the IM system groups conversations into distinct

1 categories—a set of messages without any status notification and a particular message
 2 with a status notification—and then a processor selectively “updat[es] an internal
 3 record” to reflect the received status notification for the latter and inferred status
 4 notification for the former. The specification likewise discloses particularized
 5 embodiments. ’182 patent at 2:41-49 (describing algorithm and data structures used to
 6 implement a particular embodiment); *id.* at Figs. 2-8 (detailing algorithms on how to
 7 reduce notifications). Moreover, the specific implementations recited in the claims
 8 detail how to “produc[e] a certain result, or effect” using a set of specific, non-abstract
 9 claimed steps, not all abstract manners in which the results could be achieved.
 10 *Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859, 869 (Fed. Cir. 2010).

11 Twitter also suggests that the claims contain insufficient “hardware” recitations
 12 (Mot. 9), but it is well-established that “[s]oftware can make non-abstract
 13 improvements to computer technology.” *Enfish*, 822 F.3d at 1335. The claims override
 14 the default behavior of the prior art system, reducing the data exchanged between the
 15 sender and receiver devices and thus creating not only an optimized communication
 16 system that utilizes less bandwidth for status notifications, but also a better experience
 17 for mobile device users utilizing IM communications systems, on its face a problem
 18 “particular to the Internet.” *DDR Holdings*, 773 F.3d at 1247. Alternatively stated, the
 19 claims here are directed to an improved architecture to provide to the user status
 20 notifications as to an entire electronic conversation without waiting for the notifications
 21 to be received, processed, and displayed for each distinct message in that conversation.

22 By operating on a reduced number of status notifications in an electronic
 23 conversation while informing the user as to the status of the entire conversation, the
 24 claims are directed to “a particular manner of summarizing and presenting information
 25 in electronic devices,” and thus are not abstract. *Core Wireless*, 880 F.3d at 1362-63.

26 **2. Step Two: The Inventive Concept Precludes Dismissal**

27 Twitter also fails to meet its burden at step two. As discussed at step one, the
 28 inventions make specific improvements to prior art IM systems. *See, e.g.*, ’182 patent

1 at claims 1, 4. Twitter offers nothing to demonstrate the claimed elements individually
 2 or as a combination were “well-understood, routine, and conventional activities
 3 previously known to the industry.” *Aatrix*, 882 F.3d at 1128. BlackBerry has
 4 specifically identified limitations in its status notification mechanism which operate
 5 together to reduce redundant notifications and conserve precious computation
 6 resources, “a specific and substantial improvement over prior messaging notification
 7 systems.” Dkt. 36 ¶¶ 180-182. These allegations preclude dismissal at step two.
 8 *Cellspin*, 2019 WL 2588278, at *8; *Aatrix*, 882 F.3d at 1126-28.

9 **F. The '059 Patent Claims Eligible Subject Matter**

10 **1. Step One: The Novel Technical Architecture Is Not Abstract**

11 Twitter argues claim 1 of the '059 patent is directed to “the abstract idea of
 12 communicating the availability of content through a networked hub,” not to “a
 13 technological solution specific to a technological problem.” Mot. 11-12. However, the
 14 patent explains—against the technological context in or before 2009—that content
 15 exchange between mobile wireless devices involved one device downloading content
 16 before sending it to another wireless device, which required uploading the content, and
 17 a server routing the uploaded content to the second mobile wireless device—*every time*
 18 the content was to be exchanged or shared. The inventors recognized that sharing
 19 content required an improved architecture, particularly on mobile wireless devices with
 20 bandwidth, battery, and performance constraints. *See, e.g.*, '059 patent at 18:5-12.

21 Claim 1, among others, embodies that improved communication system to
 22 reduce redundant transfers of data by mobile wireless devices over wireless networks,
 23 in which mobile wireless devices share informational content using a data hub server.
 24 First, the data hub server receives, in a directed transmission, a representation of the
 25 informational content from a first server, where the first mobile wireless device is a
 26 client of the first server. *Id.* at claim 1. Second, the data hub server notifies the
 27 availability of the informational content to the second mobile wireless device using a
 28 directed transmission to a second server, where the second mobile wireless device is a

1 client of the second server. *Id.* Claims 2 and 3 further include transmitting the
 2 informational content from the first mobile wireless device to the first server. *Id.* at
 3 claims 2 and 3. Doing so “reduce[s] the processing on the mobile electronic client
 4 devices” and “extend[s] the battery life of the mobile electronic client devices.” *Id.* at
 5 18:5-12. Twitter argues that the claims are analogous to delivering “a large package”
 6 using postal carriers. Mot. 12. But the patent does not teach that the first device
 7 transmits the informational content—“a large package”—to the first server and then to
 8 the data hub server each time that content is to be shared with a second device. To the
 9 contrary, the patent does not require the first device to transmit the informational
 10 content to the data hub server at all. Rather, the patent only requires the first device to
 11 transmit “***a representation*** of the informational content.” That minimizes the amount
 12 of data sent by mobile devices and permits users to more effectively share information
 13 from the Internet, on its face a problem “particular to the Internet.” *DDR Holdings*, 773
 14 F.3d at 1247. Twitter ignores these limitations.

15 Moreover, Twitter’s reliance on *ChargePoint, Inc. v. SemaConnect, Inc.*, 920
 16 F.3d 759, 768 (Fed. Cir. 2019) is misplaced. There, “[t]he problem identified by the
 17 patentee” “was the lack of a communication network that would allow drivers,
 18 businesses, and utility companies to interact efficiently with the charging stations,” and
 19 so “the invention of the patent [was] nothing more than the abstract idea of
 20 communication over a network for interacting with a device, applied to the context of
 21 electric vehicle charging stations.” *Id.* at 767-68. The claims were broadly worded and
 22 would have preempted any networked charging stations. *Id.* By contrast, the specific
 23 problem addressed in the ’059 patent is retransmission and sharing of content between
 24 mobile devices, an activity that taxes device bandwidth, battery life, and performance—
 25 as well as the overall system bandwidth. ’059 patent at 18:5-12. The claims thus recite
 26 a specific technological architecture including a first server, a data hub server, and a
 27 second server deployed as the network backbone, and transmitting representational
 28 information across the backbone using directed transmissions. This particularized

1 configuration of hardware and software raises no preemption concern, as it is focused
 2 on the concrete problem of reducing data transmissions associated with file sharing and
 3 improving bandwidth usage. Thus, “the claims here are directed to an improvement in
 4 the functioning of a computer” and are patent eligible. *Enfish*, 822 F.3d at 1338.

5 **2. Step Two: The Inventive Concept Precludes Dismissal**

6 Twitter also fails to meet its burden at step two. The patent does not simply
 7 recite “using generic computer networking components” that perform “generic
 8 computer networking functionalities.” Mot. 13. Instead, the patent provides an
 9 unconventional improvement to standard communications systems used to share
 10 content—by ensuring informational content need not be transmitted from the first
 11 mobile device at all or at most only once. Moreover, a representation of informational
 12 content is transmitted between the first server, of which the first mobile device is a
 13 client, and the data hub server. *See, e.g.*, ’182 patent at claims 1, 11, 16.

14 Moreover, unlike the patent ineligible claims in *SAP America, Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (selection, analysis, and reporting of
 15 information not tethered to any embodiment broadly preempted all uses of data), the
 16 claims here recite a specific structure receiving and transmitting representational data
 17 using directed transmissions and, as such, are “tied to a specific structure of various
 18 components” and “narrowly drawn to not preempt any and all generic [treatment] of
 19 data in a similar system.” *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288,
 20 1301 (Fed. Cir. 2016). The claims also “purposefully arrange[] the components . . . to
 21 achieve a technological solution to a technological problem.” *Id.*
 22

23 Nor does Twitter demonstrate the claim elements, as a combination, were present
 24 in “well-understood, routine, and conventional activities previously known to the
 25 industry.” *Aatrix*, 882 F.3d at 1128. BlackBerry’s complaint alleges that the network
 26 comprising a first server, a data hub server, and a second server and the representational
 27 information transmitted across the network using directed transmissions operate
 28 together to minimize data transmissions over the network and provide “a specific and

1 substantial improvement over prior electronic messaging systems in electronic
 2 devices.” Dkt. 36 ¶¶ 134-137. These factual allegations preclude dismissal at step two.
 3 *Cellspin*, 2019 WL 2588278, at *8; *Aatrix*, 882 F.3d at 1126-28; *Amdocs*, 841 F.3d at
 4 1303 (the “combination of the[] limitations yield[ed] an inventive concept”).

5 Twitter also incorrectly asserts claim 1 “is representative,” but provides no
 6 analysis. Mot. 10. For example, other claims recite “autonomously transferring the
 7 informational content” or “browsing the first server from the first mobile electronic
 8 device and selecting the informational content in the first server.” *See Appx. A.*

9 G. The ’777 Patent Claims Eligible Subject Matter

10 1. Step One: The Novel Technical Architecture Is Not Abstract

11 Twitter’s argument that claim 1 of the ’777 patent is directed to “the abstract idea
 12 of screening repetitive content when it becomes excessive,” Mot. 15, is misplaced.
 13 Twitter again ignores both the problem that the invention solves and how it does so.
 14 The patent explains—against the technological context in or before 2011—that “[t]he
 15 relative ease and speed with which content can be generated and communicated within
 16 social networks” has downsides, including, for example, that “[h]ackers, or even
 17 normal users, can de-frame [sic] or bully other users in a social network environment
 18 very easily and quickly with messages whose content may include misinformation or
 19 untruthful, derogatory or defamatory statements that may even have elements of libel or
 20 slander.” *Id.* at 1:27-34. It is specifically the technological environment in which
 21 social networks are implemented and exist that allows for this proliferation of content
 22 such that “the rate of transmission and re-transmission of detrimental messages can
 23 grow at such a fast rate as to render counter-point or corrective communications
 24 ineffective, resulting in potentially irrevocable damage to the target of the
 25 misinformation.” *Id.* at 1:35-42. Indeed, such issues do not exist “in a normal free-
 26 speech arena” in a non-technological context. *Id.* The patent relatedly explains that
 27 “the unrestrained dissemination of messages in a social network can have adverse
 28 effects on network traffic. . . . With the ability of social network users to easily and in

1 real-time copy and re-transmit popular messages from one user to a multitude of other
 2 users, as is the case of re-tweeting on Twitter, for example, the potential reach of such
 3 re-postings within the social group can be *exponential*, presenting a significant hazard
 4 to bandwidth and other traffic resources of the network.” *Id.* at 1:42-58 (emphases
 5 added).⁶ The inventors thus recognized the need for a technological improvement to
 6 prior art systems to discern messages that may cause detrimental effects on network
 7 traffic, bandwidth, and users and to curb undesirable proliferation thereof.

8 Claim 1, among others, recites such an improved technological architecture,
 9 neutralizing the effect of unrestrained re-transmissions of potentially harmful messages
 10 and content. It teaches a system that receives “electronic communications within a
 11 social group of a social network” and monitors messages within the group. *Id.* The
 12 system “determines” (e.g., flags) content if the number of messages containing that
 13 content “exceeds a growth rate threshold” or the number of such messages “exceeds a
 14 message quantity threshold.” *Id.* Whenever such content is flagged, the system
 15 subsequently checks whether new messages to the social group contain content similar
 16 to the flagged content. The system then selectively adjusts notification of any such new
 17 messages to the one or more members of the social group. *Id.*

18 Thus, claim 1 is directed to using a tiered approach to identify deleterious content
 19 and flag it for selective notification—enabling a social network communications system
 20 “to do things it could not do before.” *Finjan*, 879 F.3d at 1305. In so doing, the
 21 invention refines the quality of messages sent over a social network by specifically
 22 handling notifications of messages that may harm the network or its users, while
 23 preserving network resources and bandwidth by curbing the continued proliferation of
 24 such content and creating a better experience for users consuming information from

25
 26 ⁶ The exponential reach of re-postings is a technological problem that could not and
 27 “did not arise in the” non-digital world, *IBG LLC v. Trading Techs. Int’l, Inc.*, 757 F.
 28 App’x 1004, 1007 (Fed. Cir. 2019), contrary to the examples cited by Twitter. Mot. 16
 (messages sent to a city council member’s office, solicitations for alumni donations).

1 around the Internet, a problem “particular to the Internet.” *DDR Holdings*, 773 F.3d at
 2 1247. In challenging the patent eligibility of claim 1’s invention, Twitter ignores
 3 express claim language and instead describes the claimed inventions “at such a high
 4 level of abstraction and untethered from the language of the claims” to “all but ensure[]
 5 that the exceptions to § 101 swallow the rule.” *Enfish*, 822 F.3d at 1337.

6 Twitter analogizes claim 1 to those in *Symantec*, 838 F.3d at 1317. Mot. 15-16.
 7 As detailed earlier in § III.C.1, the *Symantec* claims encompassed “human-practicable
 8 concepts” and raised significant preemption concerns. Not so here. Claim 1, for
 9 instance, monitors certain “electronic communications” on a social network and
 10 determines content being shared at a certain growth rate and that “present[] a significant
 11 hazard to bandwidth and other traffic resources of the network.” The patent requires
 12 processing these messages in a distinct fashion, overriding the “routine and
 13 conventional” behavior of notifying users, which could result in further proliferation of
 14 new messages containing similar content and harm the network and its users.

15 That specificity is also lacking in the claims in *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335 (Fed. Cir. 2018), another case Twitter cites in support. Mot. 16-17.
 16 There, the court invalidated claims that contained generic functional language and did
 17 “not sufficiently describe how to achieve the[] results in a non-abstract way.” *Interval*
 18 *Licensing*, 896 F.3d at 1344. Here, the claims are quite specific: claim 1 describes the
 19 specific technical architecture behind the improvement by setting forth the criteria
 20 under which electronic messages on a social network may be monitored and their
 21 content determined to satisfy growth or volume thresholds (e.g., and be detrimental to
 22 users or cause network congestion as such)—and then recites steps to selectively adjust
 23 notifications of such messages to avoid their potential harmful effects. ’777 patent at
 24 claim 1; *see id.* at 2:21-33. The specification explains that “[w]ith the ability of social
 25 network users to easily and in real-time copy and re-transmit popular messages from
 26 one user to a multitude of other users, as is the case of re-tweeting on Twitter, for
 27 example, the potential reach of such re-postings within the social group or network can

1 be exponential, presenting a significant hazard to bandwidth and other traffic resources
 2 of the network.” *Id.* at 1:52-58. That problem “did not arise in the” non-digital world,
 3 *IBG*, 757 F. App’x at 1007, and the claim language is specifically directed to solving
 4 that problem—and thus to alleviating the effect of quick and exponential dissemination
 5 of messages on a social network. Indeed, the claims recite how specifically to
 6 “produc[e] a certain result, or effect” using a set of non-abstract, computational steps,
 7 *McRo*, 837 F.3d at 1314, not abstract ways in which harmful messages could be
 8 identified and handled. *Research Corp.*, 627 F.3d at 869.

9 Twitter argues the claims do not sufficiently specify “how to determine when a
 10 message or content has met the claimed criteria” or “how to selectively adjust
 11 notifications for a new message.” Mot. 16. But the claims recite the exact criteria that
 12 must be used to flag potentially harmful content and then recite limitations to adjust
 13 notifications of new messages containing similar such content. *See* ’777 patent at claim
 14 1. That much is sufficient at the pleading stage. *BlackBerry*, 2018 WL 4847053, at
 15 *15 (“how much ‘how’ is necessary may ultimately be dependent on the level and
 16 knowledge of a person of skill in the art at the time of the invention”).

17 The claims here override the default programmed behavior of prior art systems,
 18 which uniformly allowed receipt and notification of all messages—including those
 19 potentially deleterious to network traffic or network users. Reducing visibility of the
 20 messages exchanged over the network to temper further proliferation of similar
 21 messages and in turn creating a better experience for social network users trying to
 22 effectively consume information on the Internet is on its face a problem “particular to
 23 the Internet.” *DDR Holdings*, 773 F.3d at 1247. Moreover, by selectively overriding
 24 default message notification settings based on a specific algorithm, the claims are
 25 directed to “a particular manner” of handling “information in electronic devices” and
 26 not abstract. *Core Wireless*, 880 F.3d at 1362-63; *Data Engine*, 906 F.3d at 1007.

27 **2. Step Two: The Inventive Concept Precludes Dismissal**

28 Twitter also fails to meet its burden at step two, where its common refrain is

1 mere attorney argument that the claims do not involve any “technical challenge” or
 2 “improvement.” Mot. 17-18. But as discussed at step one, the claims make specific
 3 technological improvements over prior art systems, particularly as to determining
 4 content of interest and selectively adjusting notification thereof—a departure from the
 5 prior art’s routine and conventional behavior of providing notifications for each
 6 electronic communication. The Federal Circuit has “repeatedly held” such
 7 improvements patent eligible. *Aatrix*, 882 F.3d at 1127; *BASCOM*, 827 F.3d at 1350.

8 Twitter also frames its arguments with respect to individual claim limitations
 9 (Mot. 17-18), but fails to show how their combination was “well-understood, routine,
 10 and conventional activities previously known to the industry.” *Aatrix*, 882 F.3d at
 11 1128. In contrast to Twitter’s mere *ipse dixit* allegations, BlackBerry has pled factual
 12 allegations—which must be taken as true at this stage—that its improved mechanism
 13 includes novel limitations that operated together to identify “electronic
 14 communications” that may be detrimental to users and weigh on network traffic and
 15 bandwidth, and adjust notifications to alleviate such harms, “a specific and substantial
 16 improvement over prior social networks and systems” that failed to identify, let alone
 17 handle, such electronic communications. Dkt. 36 ¶¶ 206-212. These limitations, which
 18 the inventors expressly identify as differentiated over the prior art, combined to solve a
 19 specific problem in the prior art. BlackBerry’s factual allegations preclude dismissal at
 20 step two. *Cellspin*, 2019 WL 2588278, at *8; *Aatrix*, 882 F.3d at 1126-28.

21 Finally, Twitter fails to address elements of any claims other than 1, 10, and 19,
 22 which provide additional limitations such as “selectively prioritizing communication”
 23 or “selectively delaying a reception” of new messages. *See Appx. A.*

24 **IV. CONCLUSION**

25 For the foregoing reasons, Twitter’s motion should be denied. If the Court were
 26 inclined to grant any part of the motion, BlackBerry requests leave to amend its
 27 complaint. *Eminence Capital, LLC v. Aspeon, Inc.*, 316 F.3d 1048, 1052 (9th Cir.
 28 2003); *Aatrix*, 882 F.3d at 1128.

1 Dated: July 24, 2019

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